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Superintendent of Schools

# ***Siskiyou County Office of Education***

*Providing a Menu of Powerful Services to Schools and Communities  
Supporting the Learning Goals of Each Child and Family*

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Natural Resources Education Program  
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School Resource Team Manager

# **Final Report 2001/2002**

## **1. Abstract**

In 1994, the AmeriCorps Watershed Project (AWP) was created to educate students statewide about the importance of their local watershed. Siskiyou County was provided with eight AmeriCorps members to work in area schools. Each member worked with teachers and resource professionals to develop real hands-on science projects for students. The member worked with the community to educate them by inviting them to work with the students on these projects. They became an integral part of the community. In 2001 the Natural Resource Education Program (NREP) began its second post AmeriCorps year.

In only two years the NREP has continued the legacy left by the AWP. The Siskiyou AWP served more than 40,000 students and trained over 300 teachers. Since NREP began in the fall of 2000, the program has emphasized natural resources education. During the past two years, NREP coordinators have served more than 22,000 students and worked with over 200 teachers. NREP has also put an emphasis on recruiting volunteers. We realized that we could not run a sufficient program without tapping into our local communities. In two years, NREP has recruited over 1500 volunteers, with these volunteers donating nearly 4500 hours. This is an amazing accomplishment and a highlight for our program. One of the things that is stated within the Klamath River Basin Fisheries Task Force grant application is to make the dollars go as far as possible. The Klamath River Basin Fisheries Task Force has given NREP the opportunity to do that. The knowledge that these volunteers share with the students goes far beyond programs that we create.

It is the uniqueness of the NREP program that keeps schools enthused. Not only does NREP provide natural resources and watershed education, but also it provides the schools with a person to help plan and implement these programs.

In 2001/02 the NREP program continued its support of the Aquarium Incubator Project, Cooperative Spawning Ground Surveys, and aquatic insects and water quality studies. Streambed Restoration Projects were added to the list of projects NREP was involved with. We took the lead on Science Fun Day, held at College of the Siskiyous, and many in-class and field activities. With the success of this year's program, NREP plans on expanding its area of service for the 2002/03 year.

## **2. Introduction**

After a successful first year, we decided that year 2 funding should focus on expansion of the program. This meant adding an NREP staff position to the Salmon River Watershed. The Salmon River Schools were a big part of the AmeriCorps Watershed Project. When NREP began we were not able to serve all areas of Siskiyou County. One of the areas we were unable to serve in year one was the Salmon River Schools. As year 2 was approaching we decided that NREP would expand to the Salmon River Watershed. NREP provided one coordinator to serve Forks of Salmon and Junction Elementary Schools. The decision to serve the Salmon River Schools proved to be a good one. The schools were very enthused to have our program again, as we were to be back. In a relatively short time, the NREP program provided support to schools, teachers, and the community just as the AWP had during its six years there.

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### **3. Description of Study Area**

Our area of study includes all participating schools in Siskiyou County. For the 2001/2002 year, 19 schools and 5 community organizations participated. In order for a school to participate they must provide a percentage of the funding support for the program. In 2002/2003, we are looking to expand our area of study to include the French Creek Outdoor School (FCOS). Working with FCOS will allow our coordinators to specifically teach 6<sup>th</sup> grade students about French Creek, the Scott River, and the Klamath River Watershed.

### **4. Methods and materials:**

Based upon what the NREP program learned from the previous year, we targeted teachers and volunteers. One of the hardest things to determine is how to measure what the students have learned about natural resources. In our first year, we experimented with student surveys and we didn't receive much solid data. For the 2001/2002, we decided to only survey teachers and volunteers. The information we received from them gave us useful feedback for NREP. In our grant proposal we said that we would survey 48 teachers and 80 volunteers.

The teacher survey worked very well. Teachers would receive surveys asking what their students learned and how successful the project was. We were successful in surveying 52 teachers. One of the questions asked "how did you and your students enjoy this project?"

The results from that question is as follows:

- 37 teachers said the project was "Awesome";
- 14 marked "Pretty Darn Good";
- 1 marked "OK";
- Zero were marked for the two lowest ratings.

See attached for example of completed surveys.

The volunteer survey was designed to be quick and easy for a volunteer to fill out. Volunteers were to be surveyed asking if the project was beneficial to students and the hours they volunteered on the project. We did not reach our goal of 80 volunteers surveyed. The NREP team managed to survey 51 volunteers. Of the 51 surveyed 30 were parents, 19 were resource professionals, 1 AmeriCorps member, and 1 other. See attached for examples of completed surveys.

Based on feedback received on this year's surveys, we will continue to update the surveys to help us better measure our successes.

### **5. Results and discussion of accomplishments:**

The NREP program goals were to serve 6500 students, 215 teachers, recruit 500 volunteers with the volunteers donating 1400 hours. Student projects included tree planting, water quality, aquatic insects, raising fish in the classroom, fish dissection, and fieldtrips.

During the 2001/2002 year, NREP met and surpassed its goal of serving 6500 students by working with nearly 11,000 students (many were involved in more than one project). The NREP program served over 175 teachers, of these teachers, most participated in five or more projects during the year. We recruited 889 volunteers and those volunteers donated 2345 hours. Below are some examples of the nearly 525 projects that the NREP program helped to create, plan, and

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implement.

### **Water quality and aquatic insect studies:**

The NREP program coordinated and implemented successful projects throughout the Klamath River Watershed. Many of the participating schools were involved in a study that included measuring water quality, streamflow, and collecting aquatic insects. Many of these classes would travel to field sites all over Siskiyou County including Trees of Heaven, Cantara Loop, Shasta and Little Shasta rivers, French Creek, and many other sites. A standard field trip/project included schools collecting and identifying aquatic insects, measuring stream flow, and testing water quality.

### **Aquarium Incubator Project:**

The NREP program continued to support the Aquarium Incubator Project this year. The staff supported nearly 60 classrooms in the fall and spring. The NREP staff worked with DFG personnel, at the Irongate Fish Hatchery, to gather, package, and deliver the eggs. Throughout the 6-week program the NREP Coordinators worked with teachers to develop activities based on the Aquarium Incubator curriculum. Projects included fish dissections, fish prints, hatchery tours, and in-class activities.

### **Streambed Restoration Project:**

The NREP program working in cooperation with Trudy Rilling-Collins, Watershed Education Specialist, brought two schools together for a restoration project on the Little Shasta River. Schools represented were Little Shasta and Delphic Elementary. Students from each school received first hand knowledge of restoration work including planting techniques, types of plants, and conditions for planting. A local landowner granted the schools permission for use of the land and allowed the schools to continue to monitor the progress of the trees and plants. This will be an on-going project into the future.

### **Cooperative Spawning Ground Survey:**

Five high schools and one elementary school participated in the spawning ground surveys during the Fall of 2001. All involved students were trained on survey procedures and swift water safety. Once these students were trained, they worked with resource professional counting salmon along the Scott, Shasta, Salmon Rivers, and Bogus Creek. This project is extremely beneficial to the students within the NREP program. They receive on the ground training, get to work on real hands-on projects, and work with professionals in the field.

### **Science Fun Day:**

Four hundred students in grades 1st-4th participated in the 5th annual Science Fun Day at College of the Siskiyou. Over 30 volunteers, including AmeriCorps, resource professionals, and community members showed students that science is fun. Stations included aquatic insects, native plants, trees, birds, fly tying, fish habitat, and our most popular booth cow-eye dissection.

## **6. Summary and conclusions**

The second year of the Natural Resources Education Program was very successful. Year two saw NREP expand into the Salmon River Watershed. This expansion allowed us to serve the river schools to a similar capacity as we had when the AWP program was in existence. The feedback we received from participating schools is that natural resource education would be a shell of what it is without the support of NREP. Since NREP replaced AWP, our staff has been reduced from 8 full time members to 7 part-time, however the participating schools request for natural resource

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projects continues to increase. With a staff of 7 part-time coordinators, we still managed to serve nearly 11,000 students. The NREP program continues to support programs like the Aquarium Incubator and restoration projects. The feedback we received from schools and teachers is that the program is extremely positive for the students and community. It allows teachers who are not familiar with natural resources education, an opportunity to learn from local resource professionals. For those teachers who already have programs, NREP works to enhance their existing programs. We are able to keep the community involved by inviting them to participate. By involving everyone in the natural resources education program, NREP is able to increase awareness of the Klamath River Watershed and the surrounding areas. We plan on continuing this program and expanding it to reach more areas within the Klamath River Watershed. We will be furthering project objectives in 2002/2003 to include a more extensive program with French Creek Outdoor School.

For additional information see our website at: [www.sisnet.ssku.k12.ca.us](http://www.sisnet.ssku.k12.ca.us) Click on Natural Resources Education Program.

### **7. Summary of expenditures**

Our last invoice should have been received by your office for the third quarter (4/1-6/30). We did not have any expenditures during the fourth quarter.

**Teacher Survey**  
**Natural Resources Education Program**  
**Siskiyou County Office of Education**

Teacher Name: *Katie Harris*  
School: *Grenada*  
Grade Level: *6-8*  
Date: *3/27/02*  
Project Title: *Fish dissection*

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1) How did you and your students enjoy this project?

- ☒ Awesome!!  
☐ Pretty Darn Good  
☐ OK  
☐ Needs Improvement  
☐ Not Too Exciting

2) What did your students learn?

*How to identify the internal organs of the fish. How to respect the dead fish + use the tools carefully.*

3) Does this project align with the California Science Standards for your grade level?

*yes - for 7th graders*

4) Was the project well organized?

*yes.*

5) Do you have any suggestions for new activities or programs?

*This was a great activity. Barbara + Jason did a great job explaining + teaching. Thank you! ☺*

**Teacher Survey**  
**Natural Resources Education Program**  
**Siskiyou County Office of Education**

Teacher Name: Rick Meredith  
School: Discovery High School  
Grade Level: 10-12

Date: 3/7/02 & 3/27/02

Project Title: Rotary Trap on the Shasta River

1) How did you and your students enjoy this project?

- ☒ Awesome!!  
☐ Pretty Darn Good  
☐ OK  
☐ Needs Improvement  
☐ Not Too Exciting

2) What did your students learn? Fish id, measuring flow, fish & game study procedures

3) Does this project align with the California Science Standards for your grade level?  
Yes

4) Was the project well organized? Yes

5) Do you have any suggestions for new activities or programs?

Underwater surveys, electro shocking surveys

**Teacher Survey**  
**Natural Resources Education Program**  
**Siskiyou County Office of Education**

**Teacher Name:** Marilyn Pittenger

**School:** Grenada Elem School

**Grade Level:** 1st / 2nd

**Date:** 4/24/02

**Project Title:** Tree of Heaven

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1) How did you and your students enjoy this project?

- ☒ Awesome!!  
☐ Pretty Darn Good  
☐ OK  
☐ Needs Improvement  
☐ Not Too Exciting

2) What did your students learn? *Identifying amphibians & reptiles, Birds & bird watching, fish habitats, & water quality of the stream.*

3) Does this project align with the California Science Standards for your grade level?

*yes.*

4) Was the project well organized?

*yes*

5) Do you have any suggestions for new activities or programs?

*It was great! Thank you!*

**Volunteer Survey**  
**Natural Resources Education Program**  
**Siskiyou County Office of Education**

Volunteer Name: Barbara Allen  
Job Title (if applicable): Teaching Aide  
Organization (if applicable):  
Date: 10-5-01

## 1) Type of volunteer

- ☐ Parent  
☐ AmeriCorps  
☐ Resource Professional  
☐ Community member  
☒ Other

2) School you are volunteering for: Delphic3) Number of hours you are volunteering: 3

4) Was this project beneficial to the students?

Yes. It will help them to connect what they do to the effects it leaves behind.

5) Do you have any suggestions for improvement?

n/a

Thanks for letting us participate

**Volunteer Survey**  
**Natural Resources Education Program**  
**Siskiyou County Office of Education**

Volunteer Name: Bill Chesney  
Job Title (if applicable): Biologist  
Organization (if applicable): Dept. of Fish & Game  
Date: 3/7/02

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## 1) Type of volunteer

- ☐ Parent  
☐ AmeriCorps  
☒ Resource Professional  
☐ Community member  
☐ Other

2) School you are volunteering for: Discovery High School3) Number of hours you are volunteering: 2

## 4) Was this project beneficial to the students?

YES. IT SEEMED TO BE. THE STUDENTS WHO WORKED WITH ADULT SALMON IN THE FALL WERE ABLE TO SEE THEIR OFFSPRING MIGRATING DOWNSMEAN

## 5) Do you have any suggestions for improvement?

THE INCUBATION PROJECT HAS DONE A GREAT JOB IN HELPING STUDENTS UNDERSTAND EGGS TO FRY DEVELOPMENT. WE SHOULD USE THE ROTARY TRAPS TO DEMONSTRATE PARR TO SMOLT TO OUTMIGRATE DEVELOPMENT.

**Volunteer Survey**  
**Natural Resources Education Program**  
**Siskiyou County Office of Education**

Volunteer Name: Bonnie Allison  
Job Title (if applicable): GIS coordinator  
Organization (if applicable):  
Date: 3/22/02

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## 1) Type of volunteer

- ☐ Parent  
☐ AmeriCorps  
☒ Resource Professional - Forest Service  
☐ Community member  
☐ Other

2) School you are volunteering for: Yreka High School

3) Number of hours you are volunteering: 4 hrs

## 4) Was this project beneficial to the students?

*Yes - it exposes them to technology that is used in many professions.*

## 5) Do you have any suggestions for improvement?

*Perhaps develop some data for a class project if they would like more experience using the software*